

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.**

Application Serial Number:

10/ S87, S23

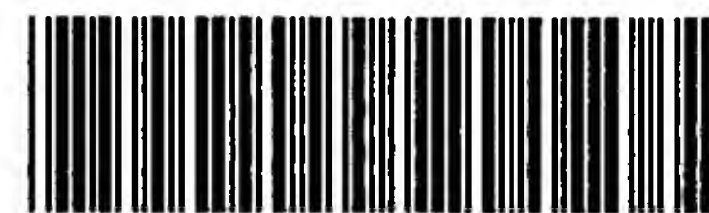
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## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/587,523

DATE: 04/27/2007

TIME: 11:47:31

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Output Set: N:\CRF4\04272007\J587523.raw

3 <110> APPLICANT: MASTROIANNI, NADIA  
 4 CAINARCA, SILVIA  
 5 CORAZZA, SABRINA  
 7 <120> TITLE OF INVENTION: PHOTOPROTEINS WITH ENHANCED BIOLUMINESCENCE AND ASSAYS  
 8 USING THE SAME  
 10 <130> FILE REFERENCE: 100506-00028  
 12 <140> CURRENT APPLICATION NUMBER: 10/587,523  
 C--> 13 <141> CURRENT FILING DATE: 2006-07-27  
 15 <150> PRIOR APPLICATION NUMBER: 05005390.9  
 16 <151> PRIOR FILING DATE: 2005-11-03  
 18 <150> PRIOR APPLICATION NUMBER: 06000171.6  
 19 <151> PRIOR FILING DATE: 2006-05-01  
 21 <160> NUMBER OF SEQ ID NOS: 24  
 23 <170> SOFTWARE: PatentIn Ver. 3.3  
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 26 <211> LENGTH: 198  
 27 <212> TYPE: PRT  
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 34 Asp Asn Pro Lys Trp Val Asn Arg His Lys Phe Met Phe Asn Phe Leu  
 35 20 25 30  
 37 Asp Ile Asn Gly Asp Gly Lys Ile Thr Leu Asp Glu Ile Val Ser Lys  
 38 35 40 45  
 40 Ala Ser Asp Asp Ile Cys Ala Lys Leu Gly Ala Thr Pro Glu Gln Thr  
 41 50 55 60  
 43 Lys Arg His Gln Asp Ala Val Glu Ala Phe Phe Lys Lys Ile Gly Met  
 44 65 70 75 80  
 46 Asp Tyr Gly Lys Glu Val Glu Phe Pro Ala Phe Val Asp Gly Trp Lys  
 47 85 90 95  
 49 Glu Leu Ala Asn Tyr Asp Leu Lys Leu Trp Ser Gln Asn Lys Lys Ser  
 50 100 105 110  
 52 Leu Ile Arg Asp Trp Gly Glu Ala Val Phe Asp Ile Phe Asp Lys Asp  
 53 115 120 125  
 55 Gly Ser Gly Ser Ile Ser Leu Asp Glu Trp Lys Ala Tyr Gly Arg Ile  
 56 130 135 140  
 58 Ser Gly Ile Cys Ser Ser Asp Glu Asp Ala Glu Lys Thr Phe Lys His  
 59 145 150 155 160  
 61 Cys Asp Leu Asp Asn Ser Gly Lys Leu Asp Val Asp Glu Met Thr Arg  
 62 165 170 175  
 64 Gln His Leu Gly Phe Trp Tyr Thr Leu Asp Pro Asn Ala Asp Gly Leu  
 65 180 185 190

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67 Tyr Gly Asn Phe Val Pro

68 195

71 &lt;210&gt; SEQ ID NO: 2

72 &lt;211&gt; LENGTH: 198

73 &lt;212&gt; TYPE: PRT

74 &lt;213&gt; ORGANISM: Artificial Sequence

76 &lt;220&gt; FEATURE:

77 &lt;223&gt; OTHER INFORMATION: Description of Artificial Sequence: Synthetic

78 protein construct

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82 1 5 10 15

84 Asp Asn Pro Lys Trp Val Asn Arg His Lys Phe Met Phe Asn Phe Leu

85 20 25 30

87 Asp Ile Asn Gly Asp Gly Lys Ile Thr Leu Asp Glu Ile Val Ser Lys

88 35 40 45

90 Ala Ser Asp Asp Ile Ser Ala Lys Leu Gly Ala Thr Pro Glu Gln Thr

91 50 55 60

93 Lys Arg His Gln Asp Ala Val Glu Ala Phe Phe Lys Lys Ile Gly Met

94 65 70 75 80

96 Asp Tyr Gly Lys Glu Val Glu Phe Pro Ala Phe Val Asp Gly Trp Lys

97 85 90 95

99 Glu Leu Ala Asn Tyr Asp Leu Lys Leu Trp Ser Gln Asn Lys Lys Ser

100 100 105 110

102 Leu Ile Arg Asp Trp Gly Glu Ala Val Phe Asp Ile Phe Asp Lys Asp

103 115 120 125

105 Gly Ser Gly Ser Ile Ser Leu Asp Glu Trp Lys Ala Tyr Gly Arg Ile

106 130 135 140

108 Ser Gly Ile Cys Ser Ser Asp Glu Asp Ala Glu Lys Thr Phe Lys His

109 145 150 155 160

111 Cys Asp Leu Asp Asn Ser Gly Lys Leu Asp Val Asp Glu Met Thr Arg

112 165 170 175

114 Gln His Leu Gly Phe Trp Tyr Thr Leu Asp Pro Asn Ala Asp Gly Leu

115 180 185 190

117 Tyr Gly Asn Phe Val Pro

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121 &lt;210&gt; SEQ ID NO: 3

122 &lt;211&gt; LENGTH: 198

123 &lt;212&gt; TYPE: PRT

124 &lt;213&gt; ORGANISM: Artificial Sequence

126 &lt;220&gt; FEATURE:

127 &lt;223&gt; OTHER INFORMATION: Description of Artificial Sequence: Synthetic

128 protein construct

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132 1 5 10 15

134 Asp Asn Pro Lys Trp Val Asn Arg His Lys Phe Met Phe Asn Phe Leu

135 20 25 30

137 Asp Ile Asn Gly Asp Gly Lys Ile Thr Leu Asp Glu Ile Val Ser Lys

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141          50          55          60
143 Lys Arg His Gln Asp Ala Val Glu Ala Phe Phe Lys Lys Ile Gly Met
144 65          70          75          80
146 Asp Tyr Gly Lys Glu Val Glu Phe Pro Ala Phe Val Asp Gly Trp Lys
147          85          90          95
149 Glu Leu Ala Asn Tyr Asp Leu Lys Leu Trp Ser Gln Asn Lys Lys Ser
150          100          105          110
152 Leu Ile Arg Asp Trp Gly Glu Ala Val Phe Asp Ile Phe Asp Lys Asp
153          115          120          125
155 Gly Ser Gly Cys Ile Ser Leu Asp Glu Trp Lys Ala Tyr Gly Arg Ile
156          130          135          140
158 Ser Gly Ile Cys Ser Ser Asp Glu Asp Ala Glu Lys Thr Phe Lys His
159 145          150          155          160
161 Cys Asp Leu Asp Asn Ser Gly Lys Leu Asp Val Asp Glu Met Thr Arg
162          165          170          175
164 Gln His Leu Gly Phe Trp Tyr Thr Leu Asp Pro Asn Ala Asp Gly Leu
165          180          185          190
167 Tyr Gly Asn Phe Val Pro
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184 Asp Asn Pro Lys Trp Val Asn Arg His Lys Phe Met Phe Asn Phe Leu
185          20          25          30
187 Asp Ile Asn Gly Asp Gly Lys Ile Thr Leu Asp Glu Ile Val Ser Arg
188          35          40          45
190 Ala Ser Asp Asp Ile Cys Ala Lys Leu Gly Ala Thr Pro Glu Gln Thr
191          50          55          60
193 Lys Arg His Gln Asp Ala Val Glu Ala Phe Phe Lys Lys Ile Gly Met
194 65          70          75          80
196 Asp Tyr Gly Lys Glu Val Glu Phe Pro Ala Phe Val Asp Gly Trp Lys
197          85          90          95
199 Glu Leu Ala Asn Tyr Asp Leu Lys Leu Trp Ser Gln Asn Lys Lys Ser
200          100          105          110
202 Leu Ile Arg Asp Trp Gly Glu Ala Val Phe Asp Ile Phe Asp Lys Asp
203          115          120          125
205 Gly Ser Gly Ser Ile Ser Leu Asp Glu Trp Lys Ala Tyr Gly Arg Ile
206          130          135          140
208 Ser Gly Ile Cys Ser Ser Asp Glu Asp Ala Glu Lys Thr Phe Lys His
209 145          150          155          160

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211 Cys Asp Leu Asp Asn Ser Gly Lys Leu Asp Val Asp Glu Met Thr Arg
212           165           170           175
214 Gln His Leu Gly Phe Trp Tyr Thr Leu Asp Pro Asn Ala Asp Gly Leu
215           180           185           190
217 Tyr Gly Asp Phe Val Pro
218           195
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222 <211> LENGTH: 198
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224 <213> ORGANISM: Artificial Sequence
226 <220> FEATURE:
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232   1           5           10           15
234 Asp Asn Pro Lys Trp Val Asn Arg His Lys Phe Met Phe Asn Phe Leu
235           20           25           30
237 Asp Ile Asn Gly Asp Gly Lys Ile Thr Leu Asp Glu Ile Val Ser Lys
238           35           40           45
240 Ala Ser Asp Asp Ile Cys Ala Lys Leu Gly Ala Thr Pro Glu Gln Thr
241           50           55           60
243 Lys Arg His Arg Asp Ala Val Glu Ala Phe Phe Lys Lys Ile Gly Met
244   65           70           75           80
246 Asp Tyr Gly Lys Glu Val Glu Phe Pro Val Phe Val Asp Gly Trp Lys
247           85           90           95
249 Glu Leu Ala Asn Tyr Asp Leu Lys Leu Trp Ser Gln Asn Lys Lys Ser
250           100          105          110
252 Leu Ile Arg Asp Trp Gly Glu Ala Val Phe Asp Ile Phe Asp Lys Asp
253           115          120          125
255 Gly Ser Gly Ser Ile Ser Leu Asp Glu Trp Lys Ala Tyr Gly Arg Ile
256           130          135          140
258 Ser Gly Ile Cys Ser Ser Asp Glu Asp Ala Glu Lys Thr Phe Lys His
259 145          150          155          160
261 Cys Asp Leu Asp Asn Ser Gly Lys Leu Asp Val Asp Glu Met Thr Arg
262           165          170          175
264 Gln His Leu Gly Phe Trp Tyr Ile Leu Asp Pro Asn Ala Asp Gly Leu
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267 Tyr Gly Asn Phe Val Pro
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282      1              5              10              15
284 Asp Asn Pro Lys Trp Val Asn Arg His Lys Phe Met Phe Asn Phe Leu
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287 Asp Ile Asn Gly Asp Gly Lys Ile Thr Leu Asp Glu Ile Val Ser Lys
288              35              40              45
290 Ala Ser Asp Asp Ile Cys Ala Lys Leu Gly Ala Thr Pro Glu Gln Thr
291              50              55              60
293 Lys Arg His Gln Asp Ala Val Glu Ala Phe Phe Lys Lys Ile Gly Met
294      65              70              75              80
296 Asp Phe Gly Lys Glu Val Glu Phe Pro Ala Phe Val Asp Gly Trp Lys
297              85              90              95
299 Glu Leu Ala Asn Tyr Asp Leu Lys Leu Trp Ser Gln Asn Asn Lys Ser
300              100             105             110
302 Leu Ile Arg Asp Trp Gly Glu Ala Val Phe Asp Ile Leu Asp Lys Asp
303              115             120             125
305 Gly Ser Gly Ser Ile Ser Leu Asp Glu Trp Lys Ala Tyr Gly Arg Ile
306              130             135             140
308 Ser Gly Ile Cys Arg Ser Asp Glu Asp Ala Glu Lys Thr Phe Lys His
309     145             150             155             160
311 Cys Asp Leu Asp Asn Ser Gly Lys Leu Asp Val Asp Glu Met Thr Arg
312              165             170             175
314 Gln His Leu Gly Phe Trp Tyr Thr Leu Asp Pro Asn Ala Asp Gly Leu
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318              195
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335              20              25              30
337 Asp Ile Asn Gly Asp Gly Lys Ile Thr Leu Asp Glu Ile Val Ser Lys
338              35              40              45
340 Ala Ser Asp Asp Ile Cys Ala Lys Leu Gly Ala Thr Pro Glu Gln Thr
341              50              55              60
343 Lys Arg His Gln Asp Ala Val Glu Ala Phe Phe Lys Lys Ile Gly Met
344      65              70              75              80
346 Asp Tyr Gly Lys Glu Val Glu Phe Pro Ala Phe Val Asp Gly Trp Lys
347              85              90              95
349 Glu Leu Ala Asn Tyr Asp Leu Lys Leu Trp Ser Gln Asn Lys Lys Ser
350              100             105             110
352 Leu Ile Arg Asp Trp Gly Glu Ala Val Phe Asp Ile Phe Asp Lys Asp
353              115             120             125

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VERIFICATION SUMMARY

PATENT APPLICATION: US/10/587,523

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